

ABSTRACT

Light emitted from a light source (22) is used through a light projection optical system (23) to perform coaxial down-emission lighting on a measurement target (36). Light reflected by the measurement target (36) is formed on a photo-detector (26) through an image formation optical system (24). Along its optical path, a spectroscope (25) is provided for converting an image impinging on the photo-detector (26) into a spectroscopic image having a predetermined wavelength band. A measurement point extraction portion (32) in a signal processing portion (28) determines a predetermined film thickness measurement point from an image picked up by the photo-detector (26), extracts an image signal at the film thickness measurement point, and transmits it to film thickness operation portion (33). The film thickness operation portion (33) measures film thickness of a thin film, which is the measurement target (36), from this signal.